



MAY 1987

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PIKES PEAK RADIO AMATEUR ASSOCIATION, INC.

P.O. Box 16521

Colorado Springs, CO 80935

FIRST CLASS MAIL



Ø BEAT



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The Pikes Peak Radio Amateur Association meets on the second Wednesday of each month at Giuseppe's Depot Restaurant at 10 S. Sierra Madre at 7:30 p.m. All amateurs and interested parties are invited to attend.

Editor: Phil Somers VE1ARC, 1075 Allegheny Dr. Colorado Springs, CO 80919 590-7136

PUBLIC SERVICE VOLUNTEERS

Here is a list of the nice folks who helped out with our two big walkathons. Thanks to everyone who helped reflect credit on hams and ham radio.

Walk for Mankind - 11 Apr 87

KØTER	Mike	KAØRLS	Mark
KAØROZ	Jody	KAØZDY	Jeff
KCØNC	Les	KCØTG	Harley
KDØNB	E. J.	KDØQE	Herb
KEØCQ	Don	KEØBJ	Don
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NØGYW	Karl	NØLA	Pete
N3EUA	Bdale	NBCIX	George
NEØH	Paul	NXØJ	Larry
VE1ARC	Phil	WØMCT	Doc
WAØSX	Jim	WA5SKK	Jim
WBØTAQ	Dave	WBØYKH	Dennis
WB7THT	Rick		

March of Dimes - 26 Apr 87

KØTER	Mike	KCØNC	Les
NØDDF	Bud	NØGYW	Karl
VE1ARC	Phil	WØMCT	Doc
WBØBSZ	Don	KAGWIE	Fred
NØHQD	Don		

STOP THE PRESS

1) WØLNU - George - reported that his 18 AVT vertical antenna has been stolen from his back yard and the nearest time he can approximate is about Sat 4-25-87.

2) NEØH - Paul - will not be able to be the Chairman for the Teller County Enduro, but would be able to assist as the co-chairman, if asked. Therefore, a new person will be required to serve as the chairman for the project. Volunteers are asked to contact any Board Member.

MAY MEETING

The next regularly scheduled meeting of the Pikes Peak Radio Amateur Association will be held on Wednesday, May 13 at 7:30 PM at Giuseppe's Depot at #10 S. Sierra St. The program will feature KØRZ on 10 GHz and Above.

PPRAA SWAPFEST

May 16 - 8:30 to 16:00

Rustic Hills Mall

Best SwapFest in Pikes Peak Region

"VIEW FROM THE PEAK"

by George Hinds, N8CIX

LIVING IT UP: [HAM] RETIREE STYLE!

What we've all so often heard a retiree say is true in my case: "I'm so busy now that I'm retired, I don't know how I ever had time for work." It's fortunate that I'm not a "couch potato" or a TV addict to keep me from my hobbies: two or three radio club meetings monthly; two railroad club meetings monthly in Denver and one in Colorado Springs; a "coffee" get-together 6 mornings weekly here in Woodland Park; plenty of "seniors" action; writing articles for 2 to 4 newsletters monthly; keeping letters going regularly to congress and to newspapers on topics of concern to me; going off the beaten path to explore and photograph this beautiful mountain area; you get the idea --- I'm having fun!

When I moved out to the Rockies, I vowed to steer clear of leadership responsibilities in my hobbies -- in other words, I'd retire not only from my work. Not that I intended to give up on volunteering -- hams who don't participate in VHF/UHF public service for their communities miss out on the camaraderie among our group, the sense of doing worthwhile tasks with ham radio, the appreciation earned from those we served so well, and the opportunity to impress government officials and the public with the value of an amateur radio service.

WE'RE ON THE ROAD AGAIN!

There was the time a couple of years ago the wife and I were traveling through hot and dusty Kansas; we stopped to buy some groceries for snacking time in a hamlet. A lady in the parking lot, evidently noticing the bag of groceries, stopped and said "I just noticed your Colorado license plates - I go there every year on vacation. What happened? Did you poor folks have to move here?"

This time we're off to the goal of all true amateur radio operators: **DAYTON HAMVENTION**. By the time you read this,

we'll have been there, having gloried in the great displays, wallowed in the flea market, and partied in the hospitality suites. And, of course, many others from PPRAA will have been there and back, too, so you likely have heard much more of the greatest show on earth for hams: Dayton!

A hint: if you set your mind on going next year, get your reservations in with a motel now -- thousands who attend make their reservations for the following year before they leave Dayton this year.

FOR YOU WHO MONITOR AIRCRAFT RADIO

Any non-pilot who listens to the radio chatter during an instrument flight situation is probably wondering what is being said - have they been exposed to a "Tower of Babel" replay? Just like other specialized occupational groups, airmen and controllers have a unique language. Many of you listen to aircraft frequencies; here are a few examples:

Negative and Affirmative - easier to understand over the radio than **No** or **Yes**.

Alternate - the airport you've planned to land at if weather makes your original destination unsafe for landing. Sometimes it, too, becomes unsafe - that's when life gets more interesting right away as the fuel gauge dips toward "E".

ATC - Air Traffic Control; a federal facility engaged (you hope as you're in the clouds) in directing and controlling aircraft in controlled airspace. Today it's grossly overworked and understaffed.

CAVU - a term for Ceiling and Visibility Unlimited; usually means clear or scattered clouds with 10 miles or better visibility. Seldom the weather my charter trips were scheduled in.

Cell - used with weather radar reports; it refers to a likely thunderstorm;
(continued next page)

pilots who have a strong desire to attain retirement make it a rule to fly around reported cells.

Center - an Air Route Traffic Control Center; since "deregulation" usually a

place where very perceptive, intelligent people remain calm when conditions in the air and on the ground about them make panic a more reasonable action for most.

Cleared for Approach - authority to execute an approach to the destination airport. Especially welcome words after prolonged flight in instrument weather conditions and low fuel gauges.

Over the Marker - may be an inner, middle or outer marker; each is a highly directional 75 MHz radio beam aimed vertically upward in line with, and off the end of, the instrument landing runway to provide the pilot with his precise location in distance from the runway touchdown point on approach to land. The inner marker (nearest to runway) transmits a series of dots; the middle marker transmits alternate dots and dashes; the outer marker (most distant from runway, usually 4 to 7 miles) transmits a series of dashes. When Morse code never sounded finer to a tired pilot after a long day or night flight.

Fix - No, not a drug! It's a very definite geographical location determined by radio navigation instruments or by radar so you'll know where you are, and so you can report over or passing the "fix" to the controller upon his/her request.

Heading - The direction in which the airplane is headed. In the U.S. it's always magnetic, not true, direction.

Holding - A means of keeping a plane at some specific point in the air, usually by performing a "racetrack" flight path over an "intersection" where radio beams cross and establish a "fix" point.

Squawk Ident - What the radar controller asks for from the pilot when he wants the aircraft transponder keyed

to transmit a signal and put a distinct blip on the radar screen. A "must have" item almost everywhere today.

Missed Approach - Maneuver the pilot must execute if he can't clearly see the runway when at a prescribed height above the runway environment. Plain language interpretation: "full throttle" and get up

and out; plowing into solid objects at or near airports is not conducive to pilot or passenger longevity.

Over and out - Used by a few jet jockeys who've been listening to Ch. 19 or watching too many TV detective shows. This kind may also be wearing helmet, goggles or scarf (or all three)!

Kill the rabbit - Slang term called out by pilots when they want the Runway Alignment Indicator Lights (that "ball of fire" you see flashing toward the runway) turned down to prevent being blinded when on final approach for touchdown.

Roger - Used to indicate full understanding of a radio transmission; also useful (with ample volume) when answering a bartender to let everyone in earshot know you're a pilot.

Stand by - pilot's reply to any inquiry from Air Traffic Control when he's flying behind the airplane and either isn't prepared for or can't think of the correct answer.

Track - Sometimes the path of the airplane across the ground; more often a path of steel rails fastened to wooden crossties and used for reliable airplane navigation. Also used by long railroad trains.

What in H___l am I doing here? - Almost always the first question I asked myself when flying near a thunderstorm or squall line.

And that's the lesson for today on aviation radio terminology, friends. Until next time -- adios...73, from N8CIX.

PIKES PEAK AUTO HILLClimb 1987

If you have 35mm slides of the Pike & Peak Auto Hillclimb

or

If you are interested in helping with safety communication for the Pike & Peak Auto Hillclimb

Contact Malcolm Benton - KE9S at 488-2071

VHF & ABOVE NEWS

CQ DAYTON! Anyone know the exit for HARA arena?? VHFers were out in force at Dayton this year with more gear and goodies than ever before. Several vendors had gear for the microwave enthusiasts. I even found some X-Band waveguide and adapters as well as used Gunplexers. But the bad news was the prices. Gone are the flea-market bargains. It seemed to me everyone was out to make their first million. Would you believe an ICOM 22s for \$900 or a 6N2 Thunderbolt for \$950 or used coax relays for \$85??? There are always some bargains but prices for new and used gear is on the rise. If you were thinking of 220MHz gear you had better have purchased it in the first few hours of the show. A stroll around on Sunday did not turn up a single radio in the flea market. The best bargain was our Raffle tickets. WA9ABB and WB7THT sold 95 at the flea market Saturday. (Hams are trusting souls aren't they)

The 70cm sprint was the 29th of April and NOCWW and KX00 went mobile to Grids DM87 and DM88. They took a 30 ele KLM boomer (over 20 FT long!!) and 100 watts. Al reported they worked as far as Wichita, KS and eastern Nebr. as well as Wyoming and Colo. I know several people were happy to work those two very hard to get grids on 432MHz.

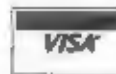
Anyone interested in a monthly Saturday swap in a parking lot or other easy to get at place let me know if there is enough interest we could give it a try. OEM parts said they would let us bring some Ham related items down to the area in front of their store on SAT. mornings.

It's time to start thinking about the June VHF contest--see May QST for details. Also time to put together a VHF station for Field Day. Six meters should be getting better and better as the spring E-Skip rolls in. Remember last June??

Anyone interested in 432 SSB there is an informal net on 432.150 every Wednesday eve at 8PM Local time. Topics like Radio Astronomy came up recently.

I would like to report on activity by Novices on 220MHz but I have not heard too much. Anyone with info on activity please let me know and I'll include it in this newsletter. That's the news as I know it!

73's and C U on the bands. Ron NKØP



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They require a \$75 minimum order so if you want one catch me at the club meeting or call me at 593-8352 and I'll keep a list until we get \$75 worth.

Club name tags are available from Blue Ribbon Trophies (528-1212) for \$5 you can phone them directly there is no minimum.

73's Ron NKØP

FOR SALE - Two section of Rohn 25 B tower. Looking for \$30.00 per section. I have as well the baseplate and the house brackets which are negotiable.

Keith --- VE3PDD / KEØMG

ANTENNAS
By Chris Smith
NXØE

The 3rd annual conference of ACES, the Applied Computational Electromagnetic Society, was held at the end of March in Monterey, California. This meeting is becoming a favorite of the electromagnetic number-crunching crowd, because of the interesting papers presented (as well as the choice of conference sites). I was fortunate in being able to attend this year. The conference offers a look at the trend in computation as well as the trend in antenna design.

Antenna analysis codes for mainframe computers (and the more exotic personal computers) are sufficiently advanced so that much of the developmental work is now being done in the areas of I/O rather than the more basic methods of solution. There is good reason for this. Computers can produce reams of data much faster than anyone can read it. Present day programs simply list most of this data, and it's up to the person running the computer to find the trends and underlying mechanisms shown by the data.

Since most of the data is meaningful only in the aggregate, ways are being tried to display the data that highlights the relationships. For example, rather than print a list of currents at various points on an antenna, one technique now coming into use is to draw the antenna and color code the current intensities. Thus the "hot spots" where current intensities are high readily stand out. Of course, current is a complex quantity so there is more information to be displayed than just intensity; other display techniques can give phase information as well.

On the input side of the computer, new hardware and standardization are coming into use. Data entry via light pens, sonic tables and digitizers are becoming common. Standardization of input data is getting attention since often several programs may be used to analyze one antenna. Of course, one program's output is another program's input, so standard formats facilitate the flow of data.

Now that PCs can run simple antenna

analysis software, homebrew antenna designers can try out their favorite designs without using the company's expensive mainframe time. This year's conference included papers on long yagis, quad log-periodics, dipoles, reflectors and ground level antennas. Some of the work reported was verification of codes by measurements and some was new antenna development.

The society does not indicate which attendees are hams and which are not, but I noticed that many of the designs were scaled to operate at frequencies such as 144 MHz, or 21 MHz, etc. In the parking areas set aside for the conference I saw more than a few call sign license plates. As you might guess, many of the professionals in the field also find pleasure in amateur operation. After all, the proof of the antenna is in the performance on the air - not in the computer!

DAYTON '87
By Rick Kile, WB7THT

It's Wednesday, 22 April 87. The cars are packed, radios installed and tested, and the sun is just creeping up over the horizon. Off on a vacation trip to the mountains you ask? No, it's much more than that. We're off to Dayton '87.

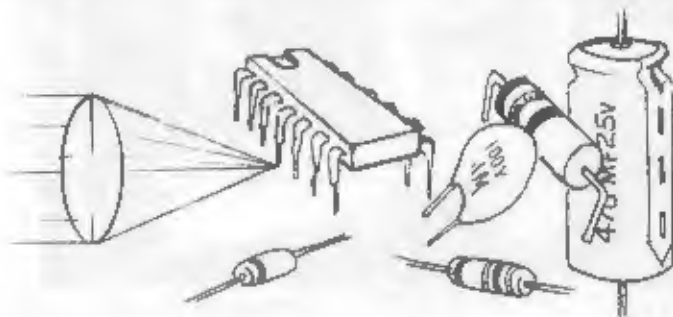
Jim Sorrells, WA9ABB, and I left town early in the morning, traveling in two cars and discussing some of the world's greatest problems (and as I recall, some rather insignificant things too) as we headed east. 2 meters was rather empty as we headed across Kansas. In Missouri we fell in with a bunch of hams from Jefferson City and Fulton and the airwaves were filled with chatter and an occasional burst of morse code as studying continued for upgrade exams. Surprisingly, the 10 GHz band was active as well. We heard many a CQ as we sped down the highway, however, without a transmitter, all we could do was slow down and wave as we went by.

Never having been to the Dayton Amateur Radio Hamvention before, I didn't quite know what to expect. I had heard stories of the flea market area, vendor displays and forum discussions, but I was totally unprepared for what I found. Upon

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KØØYPL

"ASK ABOUT OUR HAM'S DISCOUNT"

arrival at HARA Arena in Dayton, we soon parked next to Ron, NKØP, and Al, NØCMW at the flea market. Imagine if you can, a flea market larger than three football fields devoted almost entirely to radio and electronic equipment. Radios, new, used and refurbished, computers, test equipment, and parts to build almost any project on the drawing board. Unfortunately, the biggest seller at 0700 Friday morning appeared to be stocking caps and hot coffee. Must have been the cold wind and rain.

Undaunted, we rushed inside at 0800 to take a quick look at some of the new equipment, only to find that almost everyone else was inside as well. The ICOM Kenwood and Yeasu displays were impassable as were many of the larger vendor areas, but many of the smaller displays were just as interesting. At Alpha Delta, I picked up the 160 meter antenna I was looking for along with another lightning surge protector. Many trips through the exhibit area gave a pretty good idea of what was available but soon the crowds and number of things to see became overwhelming and I had a hard time remembering who had what let alone where the best prices were.

Saturday morning dawned clear and calm. With the good weather, the crowd was more evenly distributed between the indoor exhibits and the flea market. A quick check around the flea market (about 2 hours) revealed that some of the best bargains on reconditioned and used radios had been sold out. Indoors, some timely comments by Jim resulted in 1987 ARRL handbooks being marked down to just \$12.00. A little later the 2 meter linear I wanted was safely out in the car. Most of the morning was spent wandering from one display to another. Heathkit was showing a new HF linear and a duplicate of AEA's PK-232. ICOM had a full line of equipment on display, including the IC-761, the list goes on and on. In the afternoon, Jim and I managed to sell 95 raffle tickets to ham wandering through the flea market. On Sunday morning, after another pass through the flea market and indoor exhibits and a suspenseful ten minutes as name after name was pulled out a bowl until someone stepped forward to claim 100 feet of 1.25 inch heliax with connectors, we decided we had seen it all and headed for home. Next year's hamfest was already in my mind as we drove down I-70 towards Colorado Springs. A whole year to prepare shopping lists for projects, decide on new equipment and save money.

Dayton...perhaps the greatest hamfest anywhere in the world. I went in not knowing what to expect and came out hooked. Make plans now to go next year and join in the fun.

WHATS NEW IN THE WORLD OF SATELLITES?

by Keith KEØMG

- Oscar 10 should be back in service soon. Although it is "brain dead", ground controllers can still control when the transponders come on with a high rate of success. It was announced that the satellite would be re-instated for service in the beginning of May. Tests are now being conducted to determine the health of the batteries now that the its solar panels are at a much better angle to the sun. If all looks well, then the satellite will be released for general amateur use.

- To access AO-10 when it comes back into service, here are the uplink and downlink frequencies.

UPLINK 435.040 ~ 435.160 Mhz
 (CW and LSB normally)
DOWNLINK 145.960 ~ 145.840 Mhz
 (CW and USB normally)

Remember the uplink is inverted in that LSB is retransmitted on the downlink as USB and that signals transmitted to the satellite on 435.040 are received on 145.960. Happy chasing!

- Very shortly, FO-12 will be operating as a packet mailbox. To get in on the action, you will need a modem that interoperates with your current TNC. TAPR is offering such a device and you may procure yours by phoning the TAPR office at (602) 746-1166 Tuesday-Friday or by writing: Tucson Amateur Packet Radio, Box 22888, Tucson, AZ, 85734.

- The Russians are expected to launch a new Amateur satellite shortly. The date is unknown and it has slipped before already. When it becomes operational, it will support transponders that will operate on the following bands: 2, 10, and 15 meters. It is supposed to contain a "Robot" aboard very similar to the ones that operate aboard RS-5 and RS-7.

- This information given above has been derived from the Amateur Satellite Report and from packet radio PBD9 messages as distributed by the AMSAT News Service. Should you wish to become a member of AMSAT and receive the copies of the Amateur Satellite Report, you may do so by writing AMSAT, P.O. Box 27, Washington, DC 20044. Subscription fees are \$24.00 per year.

73 --- Keith --- VE3PDD / KE4MG

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Fred KA0WIE 591-0290



Ray - AA0L has a very well equipped shack with complete 80 metre to 1296 MHz coverage.

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First licensed in 1955 with the call W0WYZ, Upgraded to extra in mid 1970s.

First rig was a Filmore 2-tube, 80/40 metre, 30 watt CW kit transmitter and a Signal Corps BC-312N receiver for the low (DC) bands and a surplus APN-177 (Tail-end-charlie) modified (butchered) for approximately 420 MHz.

Early operating consisted of a few HF CW contacts with a high school buddy W0QHX and many hours trying to work a contact across town on 420 MHz. I have remained on 432 MHz ever since.

My most memorable QSO was on the island of Iwo Jima. We flew a plane out of Guam to Iwo in 1957 during a typhoon. All communications on Guam were wiped out save one, K6NAA at the Naval Air Station. I told the pilot I could contact Guam via ham radio and got a laugh. Well, it took me only a couple of minutes to get Bill because he was always on the air. We got permission to return the next day and ham radio was the hero.

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In thinking about my best DX, I came to the conclusion that mine is the same as everyone else's, many billions of miles. I am speaking of course of the noise that all our receivers pick up from the universe. The difference of course is that I like that hiss while most hams detest it. Since I have a love for astronomy it was quite natural for me to combine the two hobbies and pursue radio astronomy. I'm not an expert, only a dabbler but I do love the challenge of trying to detect changes in noise that amount to .001 microvolts or less. Along this same line, I got a group together to build a moonbounce system in the early 60s. We did manage to receive echoes off the moon on 432 MHz but no contacts. In order to be able to measure the

performance of our antenna and receiving systems, we turned to the sun and the stars. Once the antennas were turned up, I was hooked and have been ever since.

Not all of our efforts were successful. The first antenna we tried to get moon echoes with was an array of eight helixes, four on transmit and four on receive. I designed the antenna but forgot to read the fine print under the graph concerning receiver sensitivity. As a result, the antenna was toooooo small. The next effort was a 25b element broadside array that was az-el mounted. It too was too small (but then any ham antenna is too small if it stays up during a wind storm and if it doesn't, then it was just a tad too big) but was the one we finally received our echoes with.

After I moved to Colorado Springs from Denver, I put up a twenty foot dish (yup, too small) but did manage to work someone off the moon finally. Nowadays, I use a bay of four KLM Yagis on two meters and inside that array, a bay of four KLM 432 Yagis all az-el mounted (ditto, too small - been up for years now). This summer a twelve foot dish will go up on an az-el mount for the microwave frequencies (twelve feet in diameter is way too small but it is all I have right now).

In the shack, I have all band capability from 80 metres to 1296 MHz. My efforts this summer will be to finish the antenna projects, interrupted by last winter, so I will have antenna capability on all bands through 10 GHz. My interest extends to building ham equipment and test gear so the antenna project completion will generate several new transceiver projects for next winter.

My wife, Diane, and I have started a small part time business servicing communications equipment including ham gear. This is a new venture (not really, I've been in this business before) and will be operated on a part time basis until it builds up.

Ham radio has been a big part of my life for over 30 years with, I hope, at least thirty more to come. Isn't it a great hobby?

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MINUTES OF APRIL GENERAL MEETING
submitted by Al NØCMW, secretary

The general meeting of the Pikes Peak Radio Amateur Association was held at Giuseppe's Old Depot Restaurant, Wednesday evening 8 Apr 1987. The meeting was called to order by the president Don KEØGJ at 19:30. Don asked everyone to introduce themselves, and mention their favorite rig. There were 61 members and guests present. The minutes of the previous meeting were approved as printed in *Q-Beat*, with one correction: Frank KAØYEM (not KL7IPV) was thanked for his help with the Club trailer.

Committee Reports

Note: Anyone wishing to help out on any of these committees, please contact the chairman at the phone number listed.

Treasurer - Bud NØDDF (599-7699):
Previous balance was \$730.44, income of \$543.15, expenses of \$129.88, leaving a balance of \$1143.71 as of 8 Apr 87.

Interference - Ron NKØP (593-8352):
Nil

SwapFest - Jim WA9ABB (598-7543):
600 fliers will go out to non-members of PPRAA notifying them of the SwapFest, and of the Club. Raffle tickets for the ICOM 735 are on sale. For table reservations, contact AL NØCMW at 473-1660.

Pikes Peak Hill Climb - Malcolm KE9S (488-2071): Need volunteers for July 11. Have 26 so far. Safety school will be some time in June.

Education - Les KCØNC (634-3995):
Tech-general class coming along fine. No date on next novice class, sometime after SwapFest.

Publicity - Rick WB7THT (599-7655):
Letter sent out to all radio stations letting them know about the Club.

Colorado Council of Amateur Radio Clubs (CCARC) - Bud NØDDF (599-7699):
Nil.

Deaf and Blind School - Jim WA9ABB (598-7543) Has an ICOM 730 for the school now. Don, NL7CD donated an 1BAVT antenna. Chris, NXØE (new call) working with him at school.

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TAB BOOKS

Q-Beat - Phil VE1ARC (590-7136):
Can now upload *Q-Beat* articles to RBB at 531-7136. Suggested topics: equipment reviews, DX column, cartoons, etc. Want to keep 100% of *Q-Beat* articles from local amateurs.

ARES - Jim WA5GKK (579-9129):
Jim demonstrated a HotRod antenna to extend the range of an HT, and a battery pack with 2.2 Ahours. DEM has some good gel-cells for a similar project.

Public Service - Mike KØTER (636-1290):
Enduro will be same day as Field Day. Bill McKnight from Enduro gave details. Wildhorn ranch, north of Florissant on 28 Jun (Sun) from 0800-1700, 8 check points. Need help from those who do not plan to go to Field Day. Thom NEØH 597-0596 volunteered to head it up. Mike passed out info on Walk for Mankind. WalkAmerica March of Dimes will be on Apr 26, still need volunteers.

Club Trailer - Pete NØLA (495-4829):
No report.

Field Day - Tom ADØU (495-2788):
Tom has turned it over to Max KDØEL. Class will be 2A. Al NØCMW will have VHF station. There will be a novice CW station and a novice 10 meter phone

station. Also a packet and of course CW and SSB operation. Need a manager for CW or phone station. Jake will have ARES the station.

VE Testing - Pete NØLA (495-4829):
No report.

Picnic - Jim WA9ABB (59B-7543):
Picnic will be Aug 2 at the Air Force Academy at the picnic ground across from the stadium. Doug NØHJT volunteered to organize it. Thanks to the AFA ham club.

Prizes - Ron NKØP:

Winners were:

VE1ARC	Phil	ARRL Handbook
KAØZFB	Charles	Advanced manual
N3EUA	Bdale	Year membership
NØHJT	Doug	Drill bits
-	Mary C.	\$10 Wintronics
NØCIX	George	Tech/Gen manual
WBØBFZ	Don	\$10 Centennial
KCØTD	Harley	Cables from OEM
WAØSX	Jim	Voice synthesizer
W1JU	Harvey	Satellite manual
YDØQE	Herb	3 raffle tickets

Programs:

First part of double program featured slides and narrative on Dayton HamVention presented by Jim WA9ABB. Second part featured a talk by Chas WBØDCJ on 220 MHz band operation. He encouraged amateurs to write to FCC on plans for 220. Deadline was extended to 21 May. Local repeater on 224.82 minus offset. All novices and others welcome to use it. Call is WØNR. Thanks to both Jim and Chas for very interesting programs.

The meeting was adjourned at 2145.
The next meeting will be 13 May.

MINUTES OF APRIL BOARD MEETING submitted by Al NØCMW

The board meeting was held on Monday Apr 13 at the home of Ron NKØP. Meeting opened at 1900 local by pres Don KEØGJ. Present Ron NKØP, Chris NXØE, Malcolm E9S, Jim WA9ABB, Bud NØDDF and Al NØCMW.

All Walk for Mankind volunteers please submit if you desire a report of your station to Mike KØIER.

The D&B school now has an RS35 Astron power supply and a hand key, and has a vertical antenna donated by NL7CD. A motion was made for the club to buy a speech synthesizer for the ICOM 730 approx price \$95.00. Motion passed.

Malcom KE9B will show slides of the Hill Climb and talk on what we do during the Hill climb at the June Meeting.

Updated bylaws will be submitted to the club in the near future. Ron will check out another meeting place for us as we seem to be outgrowing the present one. Ron and Jim will check at Dayton for hourly prizes for SwapFest.

Secretary requested to mail formal invitation to KØRZ for May meeting. He will talk on "10 GHz and above".

Next board meeting will be 18 May at QTH of Phil VE1ARC.



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We will be closed the following dates for Hamfests:

April 22-May 11 for Las Cruces, NM Bean Feed
Sierra Vista, AZ and 25-85 meeting in Raton (May 9)
May 15-16-17-18 Colorado Springs
May 22-25 Borger, TX
May 30-June 1 for Sisters' 50th Wedding Anniversary
June 4-8 Loveland, CO
June 11-15 Levelland, TX
June 18-22 Grand Junction, CO
June 27-29 Boss' Birthday

Due to Hamfest season, we are not running a product listing this month - we have (or can get quickly) nearly all ham equipment advertised by major companies and distributors in current ham catalogs and magazines and most at lower prices. If you call and get our answering machine, please leave your name and number and a message up to 1 minute long - we get them daily and will call you back, or if you leave an order and your address, we'll ship it that day or next.

Some specials on New Equipment Kenwood TM221A - 2 meter FM 45 W rcv from 138-174 MHz
Xmit modifiable for CAP & MARS - special sale price \$345 w/TTM

Kenwood TM421A - 70 cm 35 W \$359.

Kenwood TM2530 - \$349.

Kenwood TM2550 - \$379.

Kenwood 2470 - \$449.

Kenwood TS440S w/AT - \$1020.

Kenwood TS430S w/AT - \$700.

Icom 28H - Now with TTM - Sale \$410.

Icom 28A - Now with TTM - Sale \$390.

Icom 735 - Sale \$790.

KLM complete Oscar package at near 1986 prices.

Yaesu FT 767GX - \$1425.

Yaesu FT757GX - \$785.

Yaesu FT727R - 2M/70 cm HT - \$398.

Yaesu FT23R - \$265.

Kantronics KAM - \$275.

Thanks for your support, — Jess KOTAA

We'll look forward to seeing you at one of the hamfests!

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Associate Member \$8.00 ☐ (Outside Teller & El Paso Counties.)